

REMARKS

Applicant respectfully requests the consideration of the following remarks and the reconsideration of the application.

Applicant respectfully requests the examiner enter the submitted sheet of informal drawing that contains Figure 5. Figure 5 was added and entered in the parent application, U.S. Patent Application Serial No. 08/558,929 and now U.S. Patent No. 6,430,685. This parent application is relied upon for an earlier effective filing date under 35 U.S.C. 120. No new matter is added.

Claims 1-20 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 the parent application, U.S. Patent Application Serial No. 08/558,929 and now U.S. Patent No. 6,430,685. Claims 1-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sherer (U.S. Patent No. 5,459,854) in view of Arnold (U.S. Patent No. 5,128,995). Claims 1-20 are canceled. New claims 21-54 are added in view of the prior allowed parent application, U.S. Patent Application Serial No. 08/558,929 and now U.S. Patent No. 6,430,685. Thus, claims 21-54 are pending.

Without admitting the propriety of the rejection under the judicially created doctrine of obviousness-type double patenting, Applicant respectfully submits a terminal disclaimer to overcome the rejection under the judicially created doctrine of obviousness-type double patenting.

Applicant respectfully submits that the pending claims, claims 21-54, are patentable over Sherer in view of Arnold.

Sherer relates to “techniques for initializing software, such as device drivers for network interface controllers, in a host data processing system” (Col. 1, lines 28-30, Sherer). Sherer discloses:

“The method is based on providing an initialization module of the software to host memory. A portion of the initialization module determines the host architecture. Based on the determined host architecture, the unneeded portions of the initialization module are freed, and the needed portions are relocated into a contiguous memory space to minimize host memory usage. Any location dependent entries in the needed portions of the program are updated based on the relocation.

Thus, the initialization module may include a plurality of code blocks, each of which is optimized to a particular variant architecture. When the variant architecture of the host is identified, those code blocks which are optimized to the identified host are selected and the other code blocks are freed. The selected blocks are then relocated to optimize host memory usage.

According to one aspect of the present invention, the code blocks are organized into a plurality of functional segments, where each segment includes at least one code block optimized for at least one variant architecture. After identification of the host system, a code block from each functional segment in the plurality of functional segments is selected to form the host memory resident portion of the operating system.” (Col. 3, lines 8-29, Sherer).

However, Sherer does not discuss boot routines. Sherer does not teach any particular arrangements for a boot routine. From the description of Sherer, it is understood that in implementing software for a wide variety of host architectures, a device driver can have multiple code blocks optimized for different host architectures. To avoid excessive usage of host memory, unneeded portions of the device driver are freed after initially loading into the host memory the *entire* device driver, which includes the unneeded portions of the device driver.

Arnold discloses a method to store a portion of the BIOS in ROM and the remaining portion of the BIOS in a protected region of a storage device (e.g., fixed disk or diskette).

The portion of the BIOS in ROM and the portion of the BIOS in the protected region of the storage device perform different tasks. When a configuration error is detected, the computer cannot be started; and a system utility program, such as a set configuration program or a diagnostic program can be loaded from the storage device for execution. See, for example, line 60 of Col. 7 – line 17 of Col. 8, Arnold.

Thus, when Sherer and Arnold were viewed together as a whole at the time the present invention was made (e.g., on or before *February 19, 1993*, the earliest effective filing date of the present invention, the filing date of the parent application U.S. Patent Application Serial no. 08/019.599), at most one would use Arnold's method to store a portion of BIOS in ROM and the remaining portion of the BIOS in a protected region of a storage device and use Sherer's method to free the unneeded portions of the device driver after initially loading the *entire* device driver having multiple code blocks optimized for different host architectures into the host memory.

At least one embodiment of the present invention uses a method to search and select an appropriate system enabler to boot a generic operating system for a specific hardware configuration. In one example, a system enabler (Gibbly) includes a self-contained boot routine (see, e.g., page 19, lines 15-26, of the specification). In one embodiment of the present invention, during the booting process, a system enabler (Gibbly) that is best for the current hardware configuration is found and selected for execution. The system enabler automatically modifies the generic operating system for compatibility with the current hardware configuration (see, e.g., Figures 2 and 3). Such an arrangement provides great flexibility in developing and deploying operating systems for different hardware configurations. For example, to update an operating system, a new system enabler can be added to the system without having to eliminate the old system enabler, since the new system enabler will be automatically found and selected for execution during the booting process.

Neither Sherer nor Arnold discloses such a process of searching and selecting a system enabler to generate a hardware specific operating system from a generic operating system during the boot process.

For example, claims 21 and 28 recite:

21. (new) A method to boot a computer system, the method comprising:
selecting a hardware-specific boot routine designed to boot current hardware of the computer system in executing a generic operating system, the hardware-specific boot routine being initially stored in a read-write memory device such that when hardware of the computer system is changed an updated hardware-specific boot routine can be installed in the read-write memory device to boot the computer system; and executing the hardware-specific boot routine to enable the generic operating system to boot the current hardware of the computer system.
28. (new) A method to update a computer operating system to control a computer system, the method comprising:
installing an updated hardware-specific boot routine in a read-write memory device;
wherein, during a boot process of executing a generic operating system, the updated hardware-specific boot routine is automatically selected and executed to complete the boot process.

Claims 34, 41 and 47 recite similar limitations as those in claims 21 and 28. Thus, at least for the above reasons, the pending claims are patentable over Sherer in view of Arnold.

Further, the dependent claims recite additional limitations. For example, claims 22, 27 and 31 recite:

22. (new) A method as in claim 21, wherein when executed the hardware-specific boot routine patches the generic operating system for compatibility with the current hardware of the computer system in executing the hardware-specific boot routine.
27. (new) A method as in claim 24, further comprising:
searching the read-write memory device for the first at least one boot routine.
31. (new) A method as in claim 28, wherein said installing the updated hardware-specific boot routine comprises:
adding an updated enabler file into the read-write memory device to coexist with a different enabler file in the computer system, the updated enabler file containing the updated hardware-specific boot routine.

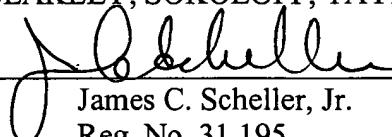
Neither Sherer nor Arnold teaches these features. Thus, Applicant respectfully submits that the pending claims are patentable over Sherer in view of Arnold.

Please charge any shortages or credit any overages to Deposit Account No. 02-2666.
Furthermore, if an extension is required, Applicant hereby requests such extension.

Respectfully submitted,

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